FACT SHEET

United States Environmental Protection Agency (EPA)
Region 10
Park Place Building, 13th Floor
1200 Sixth Avenue, WD-134
Seattle, Washington 98101
(206) 553-1214

Date:

Permit No.: ID-002030-3

PROPOSED REISSUANCE OF A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE POLLUTANTS PURSUANT TO THE PROVISIONS OF THE CLEAN WATER ACT (CWA)

City of Hailey

has applied for reissuance of a NPDES permit to discharge pollutants pursuant to the provisions of the CWA. This Fact Sheet includes (a) the tentative determination of the EPA to reissue the permit, (b) information on public comment, public hearing and appeal procedures, (c) the description of the current discharge, (d) a listing of tentative effluent limitations, schedules of compliance and other conditions, and (e) a sketch or detailed description of the discharge location. We call your special attention to the technical material presented in the latter part of this document.

Persons wishing to comment on the tentative determinations contained in the proposed permit reissuance may do so by the expiration date of the Public Notice. All written comments should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the expiration date of the Public Notice, the Director, Water Division, will make final determinations with respect to the permit reissuance. The tentative determinations contained in the draft permit will become final conditions if no substantive comments are received during the public notice period.

The permit will become effective 30 days after the final determinations are made, unless a request for an evidentiary hearing is submitted within 30 days after receipt of the final determinations.

The proposed NPDES permit and other related documents are on file and may be inspected at the above address any time between 8:30 a.m. and 4:00 p.m., Monday through Friday. Copies and other information may be requested by writing to EPA at the above address to the attention of the Water Permits Section, or by calling (206) 553-1214. This material is also available from the

EPA Idaho Operations Office, 1435 North Orchard Street, Boise, Idaho 83706.

TECHNICAL INFORMATION

1. Applicant:

City of Hailey
P.O. Box 945
Hailey, Idaho 83333

NPDES Permit No. ID-002030-3

Contact:

Stephen B. Tozier
Water and Wastewater Superintendent

2. Activity:

The City of Hailey owns and operates a municipal treatment facility that provides secondary treatment and disinfection prior to discharging to the Big Wood River. The plant design flow is .375 mgd and the current volume of wastewater discharged from the facility is .24 mgd. The plant receives domestic wastewater from residential and commercial sources. There is no industrial input to the plant.

The treatment plant is a conventional activated sludge plant. Preliminary treatment consist of bar screening, comminution, and grit removal. Debris and grit removed in preliminary treatment is disposed of in the regional solid waste facility via the Blaine County solid waste transfer station. There are no primary treatment facilities. Wastewater is routed from preliminary treatment directly into the activated sludge basin. Following secondary clarification, the wastewater is chlorinated and discharged.

Raw waste sludge from the secondary clarifier (which contains both primary and secondary sludge) is hauled to a lined drying lagoon located at the Blaine County sludge disposal site. During the summer the sludge is removed from the lagoons and disked into the soil at surface disposal rates (i.e. loading rates exceed the allowable agricultural rates).

Generally, the facility has been in compliance with the limits established in their NPDES permit.

3. Receiving Water:

The Hailey plant discharges to the Big Wood River in the Upper Snake Basin at river mile 84.8. The State of Idaho Water Quality Standards and Wastewater Treatment Requirements protect this segment for the following uses: domestic water supply, agricultural water supply, cold water biota, salmonid spawning, primary and secondary contact recreation. This reach is also designated as a special resource water and therefore, requires intensive protection. Additionally, in the vicinity of the Hailey Wastewater Treatment Plant the Big Wood River has been listed on the 303D list as water quality impaired for flow.

The only other discharger to the Big Wood River in the vicinity of Hailey is Ketchum, 12 miles upstream. The Ketchum plant is an advanced secondary treatment facility with phosphorus removal and dechlorination.

The 7Q10 for this reach of the Big Wood River is 88 cfs and the 1Q10 is 75 cfs.

4. Basis of Limitations, Monitoring and Other Requirements:

A. Effluent limitations

1. BOD_5 and TSS Limitations: BOD_5 and TSS limitations and percent removal requirements are based on the secondary treatment regulations found in 40 CFR 133.102.

2. BOD_5 and TSS Loading Limitations: The previous permit incorporated the following BOD_5 and TSS loading limitations:

BOD_5, Average Monthly Limit = 30 lbs/day
BOD_5, Average Weekly Limit = 45 lbs/day
TSS, Average Monthly Limit = 55 lbs/day
TSS, Average Weekly Limit = 78 lbs/day

These water quality based loading limitations were based on a 1975 Idaho Department of Health and Welfare - Division of Environmental Quality (IDHW-DEQ) staff evaluation of the City of Hailey discharge to the Big Wood River. Section 402(o)(1) of the Clean Water Act (CWA) provides that a water quality based effluent limitation cannot be relaxed except in compliance with section 303(d)(4) of the CWA. Under section 303(d)(4)(B) permit limitations may be relaxed only where this is consistent with the State's antidegradation policy. Because relaxing the loading limitations would not be consistent with the State's

antidegradation policy the loading limits in the previous permit will be retained in the proposed permit.

The BOD_5 and TSS limits in the proposed permit will be as follows:

Effluent Parameter	Average Monthly Limit	Average Weekly Limit	Percent Removal
BOD_5	30 mg/L	45 mg/l	85
BOD_5, loading limit	30 lb/day	45 lb/day	NA
TSS	30 mg/L	45 mg/L	85
TSS, loading limit	55 lb/day	78 lb/day	NA

3. Fecal Coliform Bacteria: The proposed permit has retained the limits for fecal coliform bacteria from the previous permit. The proposed permit has an average weekly limit of 200 colonies/100ml and an average monthly limit of 100 colonies/100ml. The proposed limitations are based on the Idaho State Water Quality Standards and Wastewater Treatment Requirements (IDAPA 16.01.02420,04).

4. pH: The proposed permit requires pH to be between 6.5 to 9.5 standard units. This requirement is in accordance with Idaho State Water Quality Standards (IDAPA 16.01.02.250.02.a.i.).

5. Floating, Suspended or Submerged Matter: A condition has been incorporated into the proposed permit which prohibits the discharge of floating, suspended or submerged matter of any kind in concentrations causing a nuisance or objectionable conditions or that may adversely affect designated uses. This condition has been incorporated into the proposed permit based on Idaho State Water Quality Standards (IDAPA 16.01.02.200.05).

6. Total Ammonia, Total Phosphorus, Total Nitrogen, and Total Residual Chlorine:

The CWA requires that all NPDES permitted discharges achieve technology-based effluent limitations established under Section 301, 306 or 402(a)(1), and comply with the State water quality standards established under 303 of the CWA. The NPDES regulations, 40 CFR 122.44(d) specifically require an NPDES permit to include effluent limitations for those pollutants that have a reasonable potential to cause or contribute to an in-stream excursion above the allowable ambient concentration of a State water quality standard.

Pursuant to 40 CFR 122.44 (d), effluent limitations for every individual pollutant that causes, has the reasonable potential to cause, or contributes to an

excursion above a numeric water quality criterion must be incorporated into the NPDES permit.

To support the implementation of EPA's national policy for controlling the discharge of toxicants, EPA developed the "Technical Support Document for Water Quality-Based Toxics Control" (TSD) and the "Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants" (PWG). Appendix A provides the procedures the above two references recommend in deriving water quality-based effluent limitations. This procedure translates water quality criteria or standards to "end of the pipe" effluent limits.

(a) Total Ammonia as N: In establishing water quality-based effluent limitations for total ammonia Idaho's water quality standards are used (IDAPA 16.01.02.250.02.b.iii). The criteria for ammonia is dependent on pH and temperature. Using a pH of 8.9 and a temperature of 16^{o} C (based on the 95th percentile recorded pH and temperature in the Big Wood River) the acute ammonia criteria is .88 mg/L and the chronic ammonia criteria is .2 mg/L. The calculations for the ammonia limitations are in appendix A. The limitations are as follows:

Maximum Daily Limit = 7.3 mg/L (22.8 lbs/day)
Average Weekly Limit = 4.3 mg/L (13.4 lbs/day)
Average Monthly Limit = 2.9 mg/L (9 lbs/day)

In the previous permit the ammonia limitations were:

Average Weekly Limit = 9 lbs/day
Average Monthly Limit = 6 lbs/day

The calculated ammonia limits are less stringent then the ammonia limits in the previous permit. In the previous permit the water quality based effluent limits for ammonia were based on a 1975 IDHW-DEQ staff evaluation of the City of Hailey discharge to the Big Wood River. Section 402(o)(1) of the CWA provides that a water quality based effluent limit cannot be relaxed except in compliance with section 303(d)(4). Under section 303(d)(4)(B) permit limitations may be relaxed only where this is consistent with the State's antidegradation policy. Because relaxing the loading limitations would not be consistent with the State's antidegradation policy the loading limits in the previous permit will be retained in the proposed permit.

(b) Total Nitrogen as N and Total Phosphorus as P: These parameters do not have criteria promulgated, however, the previous permit did incorporate effluent limits for total nitrogen and total phosphorus. The effluent limits from the previous permit will be retained. The effluent limitations from the previous permit were based on a 1975 IDHW-DEQ staff evaluation of the City of Hailey discharge to the Big Wood River. Section 402(o)(1) of the CWA provides that a water quality based effluent limit cannot be relaxed except in compliance with section 303(d)(4). Under section 303(d)(4)(B) permit limitations may be relaxed only where this is consistent with the State's antidegradation policy. Because relaxing the loading limitations would not be consistent with the State's antidegradation policy the loading limits in the previous permit will be retained in the proposed permit.therefore, the limits in the previous permit will be retained in the proposed permit.

(c) Total Residual Chlorine: To protect aquatic life, the Idaho State Water Quality Standards have established an acute and chronic criteria for total residual chlorine. The acute criteria is .019 mg/L; the chronic criteria is .011 mg/L (IDAPA 16.01.01.250.02.a.iii.). The water quality based effluent calculation for chlorine is in appendix A.

These calculated limits are:

Maximum Daily Limit = .5 mg/L
Average Monthly Limit = .4 mg/L

These limits are more stringent then the total residual chlorine limits in the previous permit, therefore, they will be incorporated into the proposed permit.

B. Water Quality Monitoring Program:

The purpose of the water quality monitoring program is to monitor ambient water quality conditions and determine if the Hailey Wastewater Treatment Plant is contributing to any water quality problems associated with metals or nutrients. The instream monitoring station shall be located upstream of the influence of the Hailey outfall.

In addition to ambient monitoring the permittee will be required to monitor the effluent for the same parameters.

The data collected from the upstream station and the effluent discharge data will be used to evaluate the reasonable potential for the discharge to cause or contribute to an instream excursion above a narrative or numeric water quality criteria (40 CFR 122.44). The permittee will be required to monitor the following parameters:

pH, standard units	Cadmium, dissolved
flow, mgd	Copper dissolved
Temperature, °C	Mercury, total
Total ammonia as N	Lead, dissolved
Total kjeldahl nitrogen	Selenium, total recoverable
Nitrate as N	Zinc, dissolved
Nitrite as N	Silver, dissolved
Total phosphorous	Hardness as $CaCO_3$
Arsenic, total recoverable	

C. Effluent Monitoring Requirements:

Self-monitoring of effluent parameters is necessary for the permittee to demonstrate compliance with effluent limitations and to assure that state water quality standards are met (40 CFR 122.41(i)). Monitoring frequencies are based on the Agency's determination of the minimum sampling frequency required to adequately monitor the facility's performance. Required sample types are based on the Agency's determination of the potential for effluent variability. These determinations take into consideration several factors, of which the most important are the type of pollutants of concern and the type of treatment system.

D. Additional Monitoring Requirements:

To ensure that quality data is collected, the permit requires the development of a Quality Assurance Plan. The purpose of the Quality Assurance Plan is to establish appropriate sampling, handling and analytical procedures for all effluent and ambient water samples taken.

Additionally, the permittee must use analytical methods approved in 40 CFR 136 as well as achieve the following method detection levels (MDL's) when sampling:

Parameters	Method Detection Level (micrograms/liter)
Arsenic	0.5
Cadmium	1
Copper	3
Mercury	0.2
Lead	0.7
Selenium	0.6

Silver	2
Zinc	2

E. Sludge: The prior NPDES permit required the City of Hailey to (1) protect the public health and environment from toxics in the sludge, (2) comply with the new standards to be issued under Section 405 of the Clean Water Act (the 503 standards published in February 1993), and (3) notify EPA prior to changing sludge practices.

The federal sludge management standards at 40 CFR 503 are now in force and applicable to the sludge activities of the City of Hailey and Blaine County, and are fully enforceable independently of any permit. They contain general requirements for the siting, design, operation, sludge quality, record keeping, and reporting for the current facilities and operations.

This is among the first permits being issued by EPA after adoption of the new standards for disposal of sewage sludge (40 CFR 503). The standards were promulgated in February 1993, and gave all facilities up to one year (February 1994) to come into compliance. This permit is being used primarily to notify the permittee of the new standards and to transmit the standards to the permittee.

Section 405(f) of the Clean Water Act requires any NPDES permit issued to a "treatment works treating domestic sewage" to include sludge use and disposal requirements. In addition, the sludge permitting regulations in 40 CFR 122 and 40 CFR 124 apply to all facilities which either generate sewage sludge, or treat or dispose of sewage sludge or septage. In this case, this includes both the Hailey sewage treatment plant and the Blaine County surface disposal site. A "surface disposal site" is a site where sewage sludge is put on the land for final disposal. Placing sludge at a surface disposal site is one of the practices EPA regulates through standards and permitting under the Clean Water Act.

The applicant plans to continue transporting sludge to the Blaine County sludge disposal site. Blaine County operates the surface disposal facilities where the Hailey sludge is disposed. Therefore, the scope of the sludge requirements in this permit and the responsibilities of this permittee (Hailey WTP) are somewhat reduced but not eliminated. Under the federal

standards at 503.7, Hailey retains some responsibility to ensure their sludge is disposed of properly.

To ensure compliance with the CWA and 40 CFR 503 the draft permit contains the following requirements:

1. General provisions: The permittee must handle and dispose of the sludge in such a way as to protect human health and the environment. The Clean Water Act requires that the environment and public health be protected from toxic effects of any pollutants in sludge, using both national standards and permits. The applicable sections of the federal standards at 40 CFR 503 are Sections A (General Provisions), C (Surface Disposal), and D (Pathogen & Vector Control).

   Pursuant to the permitting rules at 40 CFR 122.41(a), a condition has been incorporated into the proposed permit requiring the permittee to comply with all existing federal and state laws, and all regulations applying to sludge use and disposal. This includes current and future self-implementing standards under the Act.

2. Oversee Disposer: This permittee must instruct and oversee the facility receiving and disposing of the waste, including documents informing the receiving facility of their responsibilities and recording the arrangements for oversight by the permittee.

   Section 503.7 of the sludge standards specifies that generators are responsible for the correct disposal of their sludge. This is particularly important where the vector control requirements are being fulfilled by the disposer rather than through treatment at the wastewater plant. The sludge generator is responsible to inform the receiving facility, to obtain periodic assurance of compliance, to be aware of problems and/or non-compliance with the provisions of 40 CFR 503, and to take corrective action if the sludge is not being disposed in accordance with the standards - including withdrawing the sludge if necessary.

F. Endangered Species

Section 7(a) and (c) of the Endangered Species Act requires federal agencies to request a consultation with the National Marine Fisheries Service (NMFS) and

the U.S. Fish and Wildlife Service (USF&WS) regarding potential effects an action may have on listed endangered species. EPA has requested a listing of threatened and endangered species in the vicinity of the Hailey Wastewater Treatment facility from NMFS and USF&WS. A letter from NMFS dated September 5, 1995 indicated that there were no threatened or endangered species under their jurisdiction in the vicinity of the wastewater treatment plant. A letter from the USF&WS dated September 22, 1995 indicated that the bald eagle and gray wolf were in the vicinity of the wastewater treatment plant. EPA has determined that the discharge from the Hailey wastewater treatment plant will not affect either of these species.

G. Whole Effluent Toxicity Testing: The facility performed acute and chronic whole effluent toxicity tests on its effluent in July of 1990. The results from the tests showed no toxicity, therefore, toxicity testing will not be a requirement of the proposed permit.

APPENDIX A

Effluent Limitation Calculation for Ammonia:

Reasonable Potential Determination:

Q_e = effluent flow = .6 cfs
Q_u = 1Q10 = 75 cfs (use for acute calculations); 7Q10 = 88 cfs (use for chronic calculations)
Q_d = downstream flow = $Q_u + Q_e$
C_e = effluent concentration = 18.1 mg/L
C_u = upstream concentration = .1 mg/L

AML = average monthly limit
MDL = maximum daily limit
RWC = receiving water concentration

If the RWC exceeds the aquatic life criteria then a water quality based effluent limitation is required.

$$RWC = \frac{\%MZ\ (Q_u\ X\ C_u) + (Q_e\ X\ C_e)}{Q_e + (\%MZ\ X\ Q_u)} = \frac{.25(88\ X\ .1) + (.6\ X\ 18.1)}{.6 + (.25\ X\ 88)} = .58$$

Since .58 mg/L is greater then the allowable chronic aquatic life criteria (.2 mg/L) a water quality based effluent limitation is required.

Effluent Limitation Calculation

The acute and chronic criteria are converted to acute and chronic waste load allocations (WLA_a or WLA_c) for the receiving waters based on the following mass balance equation:

$Q_dC_d = Q_eC_e + Q_uC_u$
where,

Q_d = downstream flow = $Q_u + Q_e$
C_d = aquatic life criteria that cannot be exceeded downstream; acute criteria = .88 mg/L; chronic criteria = .2 mg/L
Q_e = effluent flow
C_e = allowable concentration of pollutant in effluent = WLA_a or WLA_c
Q_u = upstream flow
C_u = upstream (background concentration of pollutant)
LTA = long term average
CV = coefficient of variation = 1
%MZ = allowable mixing = 25%

Rearranging the above equation to determine the effluent concentration (C_e) or the wasteload allocation (WLA) results in the following:

$$WLA = C_e = \frac{Q_dC_d - Q_uC_u}{Q_e}$$

$$= \frac{C_d[(Q_u \text{ X } \%MZ) + Q_e]}{Q_e} - \frac{Q_uC_u(\%MZ)}{Q_e}$$

where, %MZ is the mixing zone allowable by the state standards.

$$WLA_{acute} = \frac{.88[(75 \text{ X } .25)+ .6])}{.6} - \frac{(75 \text{ X } .1)\ .25}{.6} = 25.3$$

$$WLA_{chronic} = \frac{.2[(88 \text{ X } .25) + .6]}{.6} - \frac{(88 \text{ X } .1).25}{.6} = 3.9$$

LTA_{acute} = WLA_{acute} X acute wasteload allocation multiplier
$LTA_{chronic}$ = $WLA_{chronic}$ X chronic wasteload allocation multiplier

Wasteload allocation multipliers are found in Table 5-1 of the Technical Support Document (EPA/505/2-90-001, March 1991)

LTA_{acute} = 25.3 X .204 = 5.1
$LTA_{chronic}$ = 3.9 X .373 = 1.5

MDL = LTA_{acute} X Long term average multiplier
AML = $LTA_{chronic}$ X Long term average multiplier

Long term average multipliers can be found in Table 5-2 of the Technical Support Document.

MDL = 1.5 X 4.9 = 7.3 mg/L
AML = 1.5 X 1.95 =2.9 mg/L

Effluent Limitation Calculation for Total Residual Chlorine:

The acute and chronic criteria are converted to acute and chronic waste load allocations (WLA_{acute} or $WLA_{chronic}$) for the receiving waters based on the following mass balance equation:

$Q_dC_d = Q_eC_e + Q_uC_u$
where,
Q_d = downstream flow = $Q_u + Q_e$
C_d = water quality criteria that cannot be exceeded downstream; acute criteria = .019 mg/L; chronic criteria = .011 mg/L
Q_e = effluent flow = .6 cfs
C_e = concentration of pollutant in effluent = WLA
Q_u = upstream flow; 1Q10 = 75 cfs (use for acute calculations); 7Q10 = 88 cfs (use for chronic calculations)88 cfs
C_u = upstream (background concentration of pollutant) = 0

CV = coefficient of variation = .1
LTA = long term average
MDL = maximum daily limit
AML = average monthly limit
%MZ = mixing zone allowable (IDAPA 16.01.02.060)[1]

Rearranging the above equation to determine the effluent concentration (C_e) or the wasteload allocation results in the following:

$$WLA = C_e = \frac{Q_d C_d - Q_u C_u}{Q_e}$$

$$= \frac{C_d[(Q_u \text{ X } \%MZ) + Q_e)]}{Q_e} - \frac{Q_u C_u (\%MZ)}{Q_e}$$

where, %MZ is the mixing zone allowable by the state standards.

$$WLA_{acute} = \frac{.019[(88 \text{ X } .25) + .6]}{.6} - \frac{(88 \text{ X } .0) .25}{.6} = .7$$

$$WLA_{chronic} = \frac{.011[(88 \text{ X } .25) + .6]}{.6} - \frac{(88 \text{ X } .0) .25}{.6} = .4$$

LTA_{acute} = WLA_{acute} X acute wasteload allocation multiplier
$LTA_{chronic}$ = $WLA_{chronic}$ X chronic wasteload allocation multiplier

Wasteload allocation multipliers are found in Table 5-1 of the Technical Support Document (EPA/505/2-90-001, March 1991)

LTA_{acute} = .7 X .797 = .56
$LTA_{chronic}$ = .4 X .891 = .36

MDL = LTA_{acute} X Long term average multiplier
AML = $LTA_{chronic}$ X Long term average multiplier

MDL = .36 X 1.25 = .5 mg/L
AML = .36 X 1.08 = .4 mg/L

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[1] IDHW-DEQ has sole authority for authorizing a mixing zone. In developing water quality based effluent limitations, EPA has assumed that IDHW-DEQ will authorize a 25% mixing zone in their 401 certification of the permit. If IDHW-DEQ determines that a mixing zone is not appropriate, the final effluent limits will be criteria at end-of-pipe (i.e MDL = .0125 mg/L; AML = .0108 mg/L).